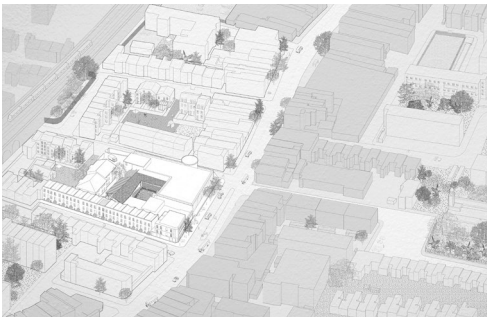
Cate McHale

Undergraduate Portfolio 2025

Contents

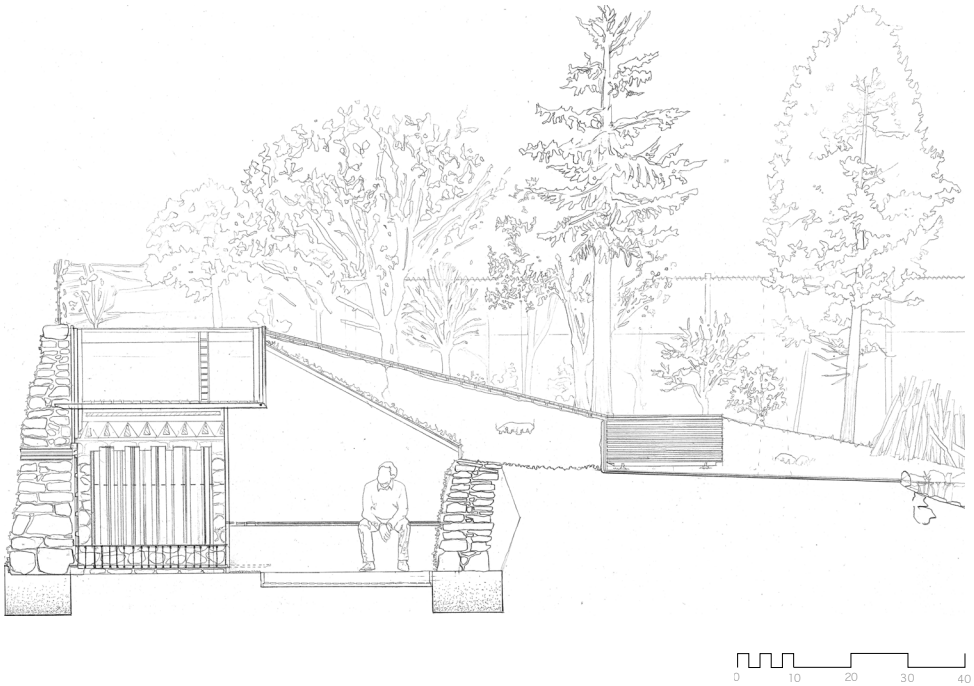
Common Ground

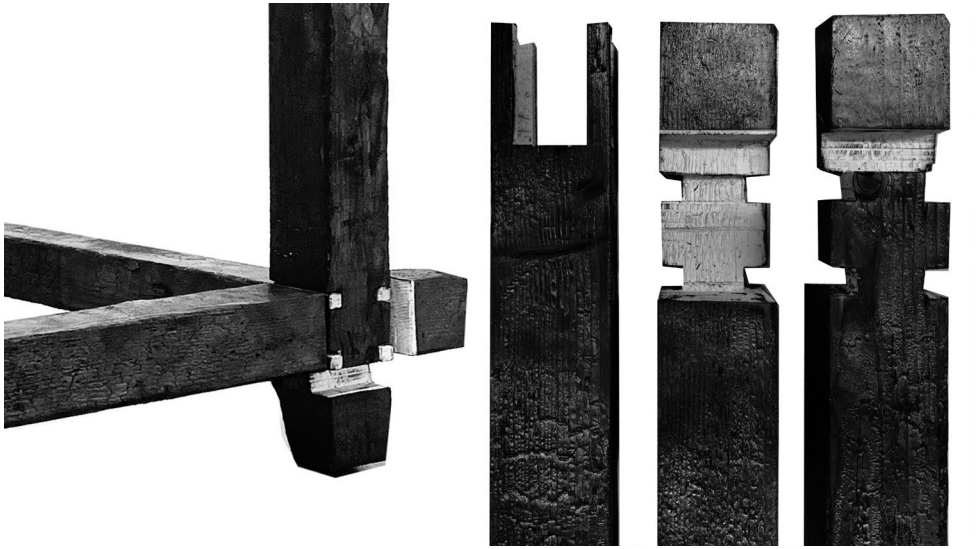


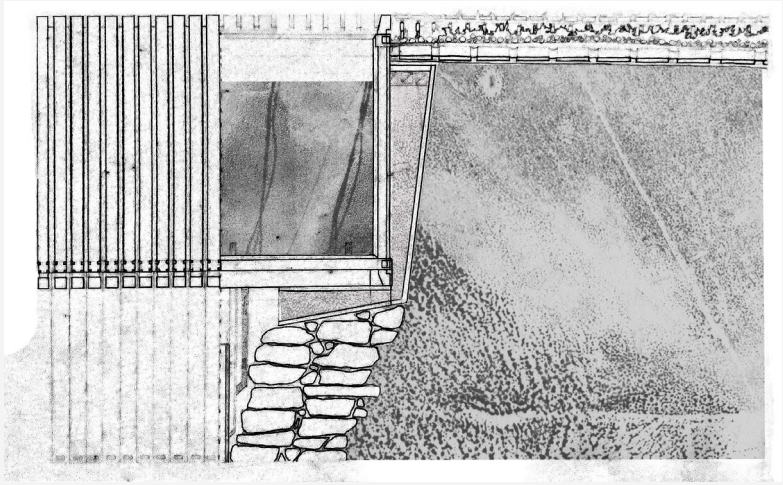
Liberating Walworth

Radical Repair

Common Ground







Timber, Water & Continuity

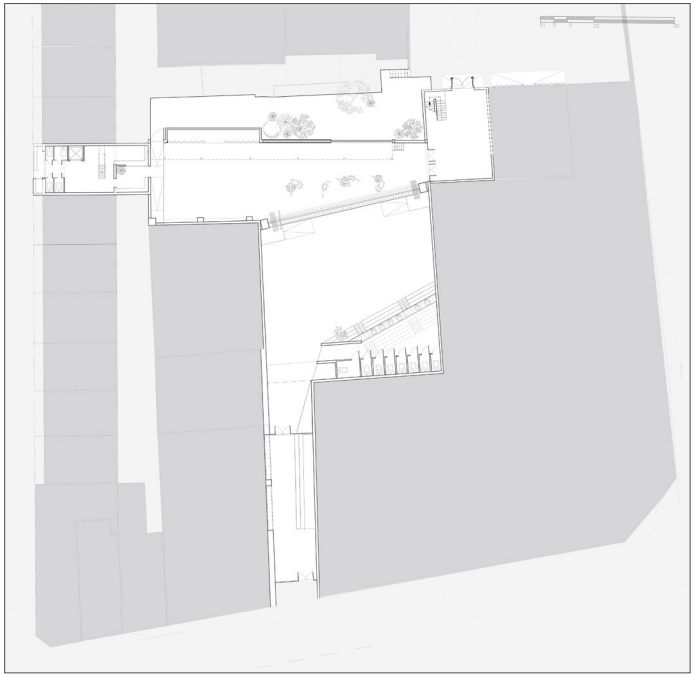
Located within Walworth community garden, the project extends the existing urban oasis through traditional Japanese joinery and the durability of yakisugi charred timber. A closed-loop material system informs both construction and use: Timber harvested on-site is seasoned, charred, and assembled into the shelter, while offcuts are dried to fuel the wood-fired bath. The bath's cycle of heating and overflow determines its rhythm of use, with water encouraging moss growth across the garden floor. In this way, the architecture binds material harvesting, reuse, and weathering into a continuous dialogue between structure, landscape, and community ritual.

[1] Bath heating + Overspill Section
[2] Charred Timber Joint
[3] Bath Materiality Monoprint
[4] Installation Model 1:20

Liberating Walworth

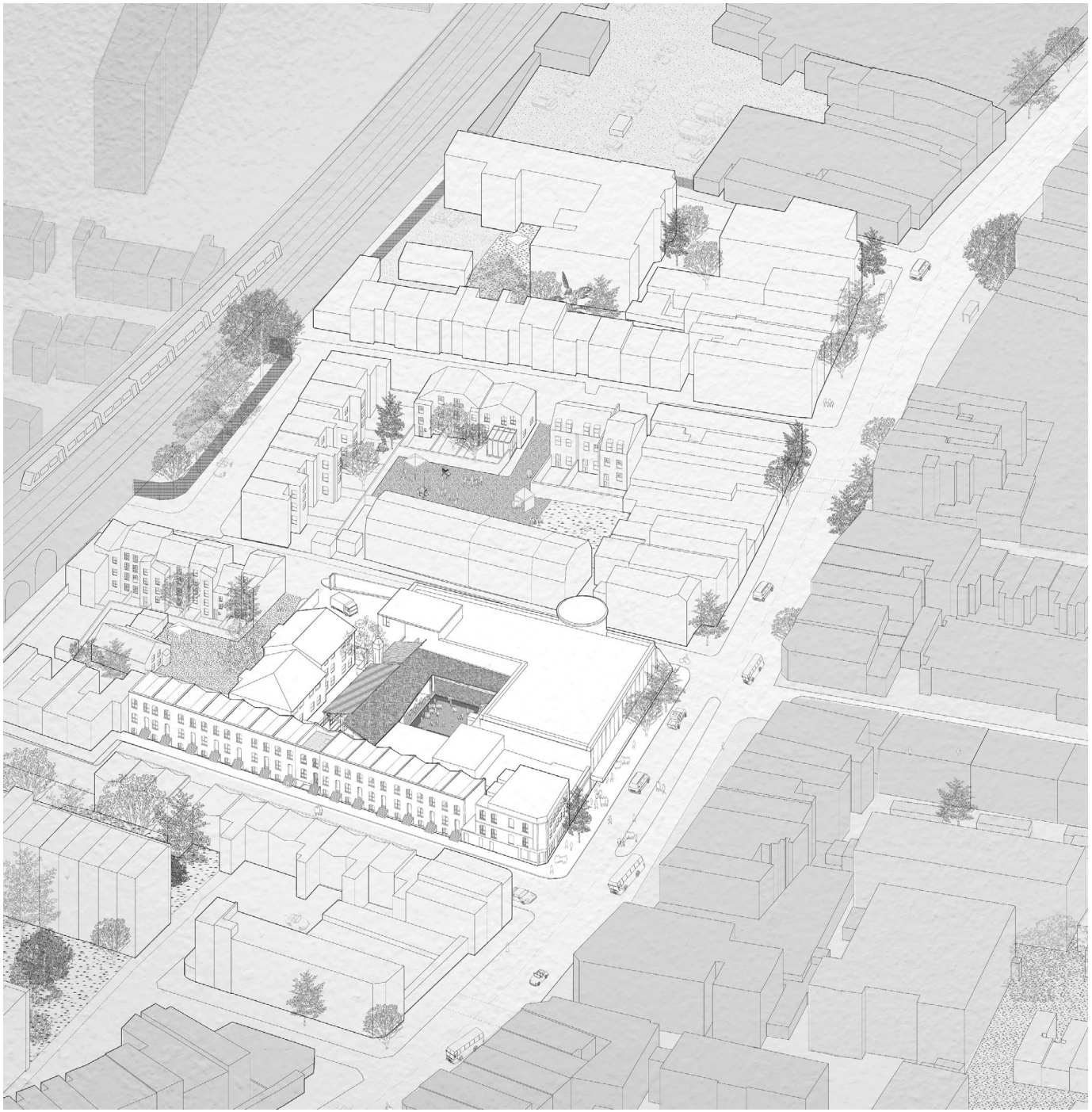
Public Yard, Public House

Based on reconnecting the spirit of energetic Walworth Road with its historically inhabited industrial yards and recreational gardens, this series of community-funded interventions is strategically embedded within a single urban block. The projects provide spatial frameworks for activities that are currently seasonal or dependent on temporary rented premises, enabling permanence and flexibility. Liberating Walworth becomes a civic catalyst - an architectural proposition that both accommodates and amplifies the area's diverse cultural identity. By carving into residual spaces, the design generates a network of adaptable environments that promote inclusivity and continuity between the public realm and private domains. Acting as thresholds between past and present, these interventions articulate a layered spatial language defined by permeability, and the interplay of light and shadow. In doing so, the project repositions Walworth as an active ground for community expression, while establishing an architectural framework that encourages further appropriation and transformation.



[1] 'Public Yard, Public House punctures the urban block through 3 Access Sites expanding and nestling into the yard.

[2] Walworth Road Illustration: Demonstrating 'Public Yards' encouragment to liberate underutilised public space.



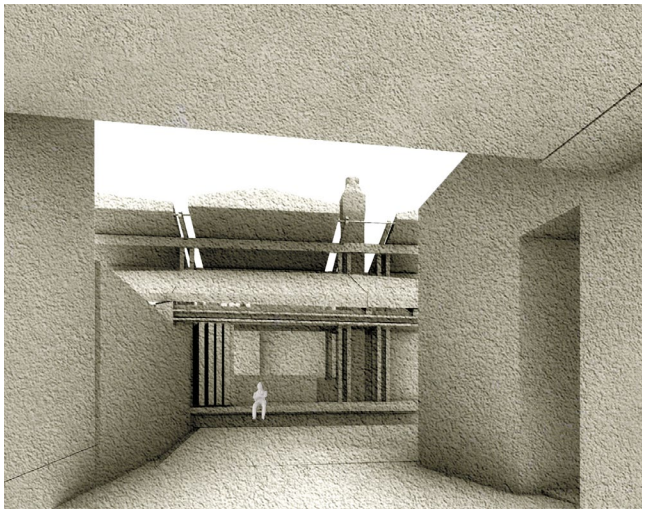
Traversing the Urban Block

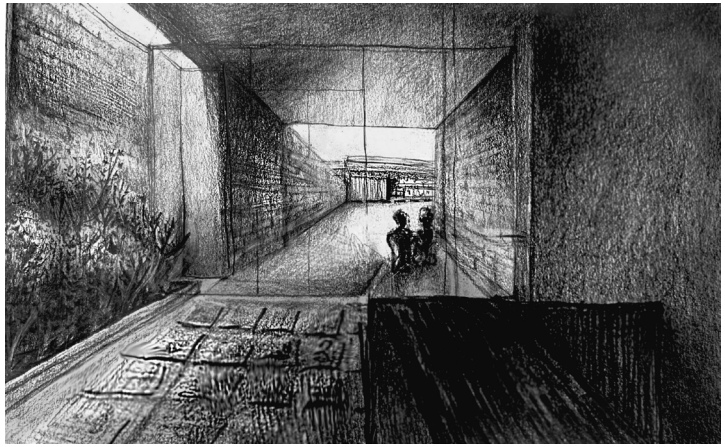
The proposal explores the reactivation of an urban block through the introduction of new pedestrian routes that unlock access to underutilised interior spaces. By establishing a sequence of threshold conditions, the design mediates between disparate urban contexts, generating continuity and permeability within the block. Spatial articulation is driven by the interplay of light, shadow, and material, with charcoal perspective studies informing the calibration of enclosure and openness. The use of charred timber references both permanence and transformation, embedding material memory into the architectural language. The project frames circulation not simply as movement, but as an experiential sequence that negotiates scale, orientation, and atmosphere.

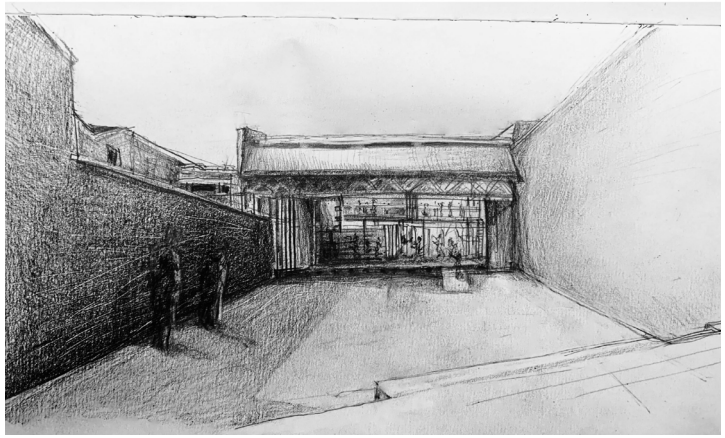
[1] 3D sketch Model of Theatre entrance.

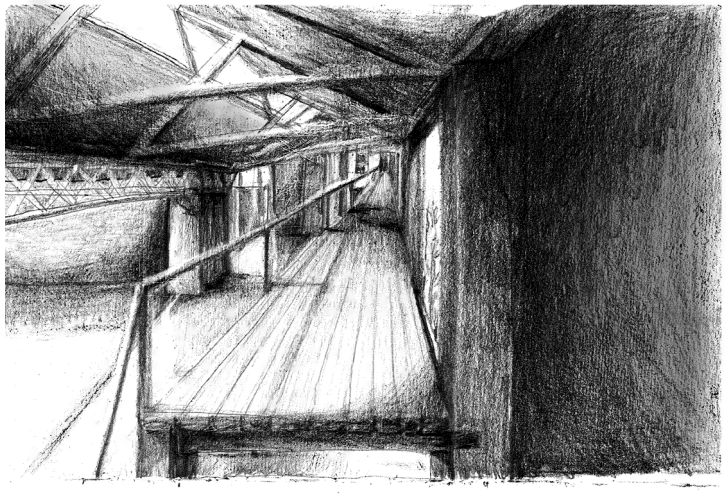
[2] Section through public house, adaptable hall space and warehouse access, indicating structure and building use.

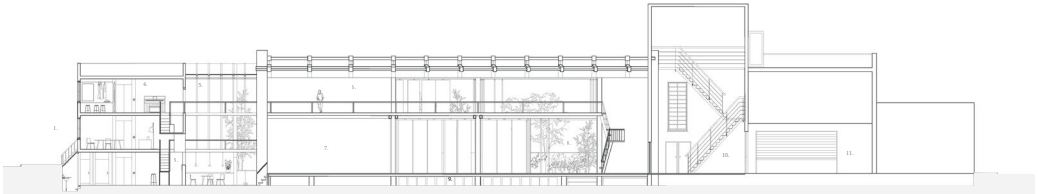
[3] Atmospheric perspective charcoal sketch sequence.



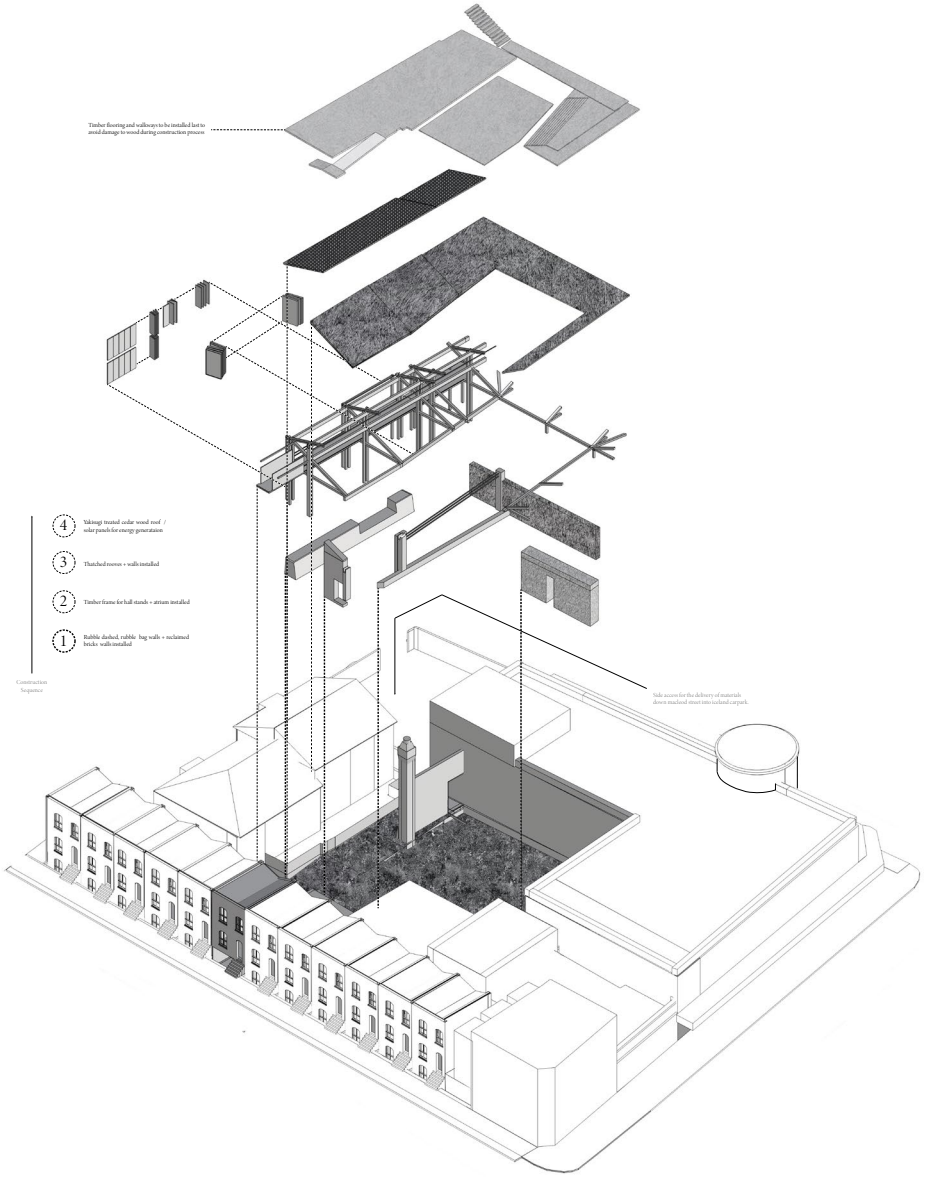








1. Entrance + Living Room
2. Bathroom
3. Cafe + Kitchen
4. Changing Rooms / Landing
5. Atrium Walkways
6 . Walkways / viewing platform / lighting deck
7. Hall / Stage
8. Back Yard
9. Under Stage Storage
10. Delivery Yard / Existing Block & Terrace Access
11. Iceland Storage Space


Timber flooring and walkways to be installed last to avoid damage to wood during construction process
4 Yakisugi treated cedar wood roof / solar panels for energy generation
3 Thatched roofs + walls installed
2 Timber frame for hall stands + atrium installed
1 Rubble dashed, rubble bag walls + reclaimed bricks walls installed
Construction Sequence
Side access for the delivery of materials down macleod street into iceland carpark.

[1] Public House, Public Yard Construction Sequence

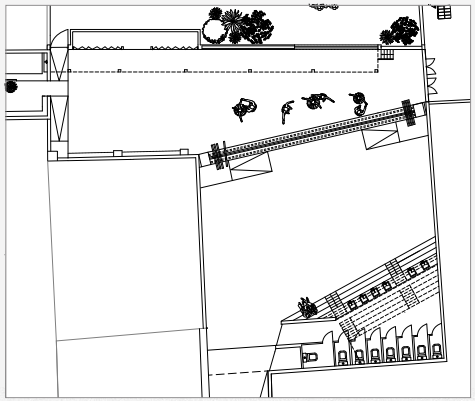
[2] Public House, Public Yard Threshold Space

Construction & Threshold: Green Urban Corridoors

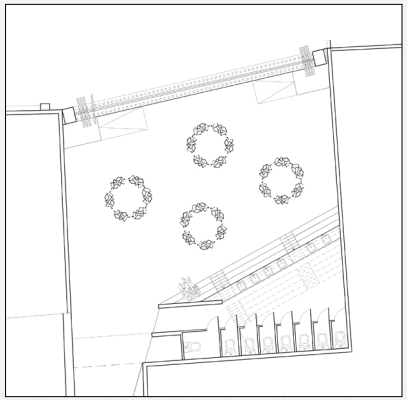
The project begins with the retrofit of a residential house into a community-owned civic space, hosting events and festivals that generate funding for further development. In its next phase, an underutilised courtyard is transformed through a charred timber and thatch structure, establishing a permanent hall and public yard. Using natural materials—timber, thatch, and cob—the design weaves new green corridors into the block, recalling Walworth's historic gardens while creating threshold spaces where landscape and architecture intersect to support community life.

Adaptable Space

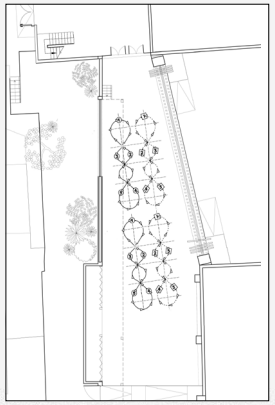
Central to the project is the creation of adaptable threshold spaces defined by large timber doors, which enable the hall to operate in multiple configurations. When closed, the linear interior accommodates performances, theatre, and community gatherings; when opened, the hall extends seamlessly into the yard, with the raised platform transforming into an outdoor stage. Tiered seating structures support larger events, while integrated bathrooms and storage ensure efficient use of space. Access points are carefully aligned with the surrounding urban fabric, embedding the project within Walworth's established community festival network and reinforcing its role as a flexible civic framework.



PLATFORM STAGE



IN THE ROUND



TRAVERSE STAGE

0 1 2 3 4 5 10m

Festival Day

Radical Repair: Resource Responsive Architecture

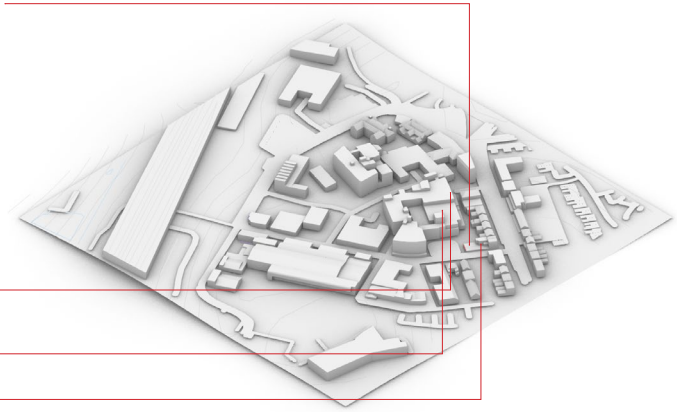
PETR WEIGL STUDIO

Petr Weigl
Nina Gerada
Heather Gibson
Kate Quinlan
Ian Thompson
Sara Dodd
Georgia Allen
Emma Grant
Belgin Bozsahin
Jenny Williamson
Marie France Scott
Gemma Wilson
Rosie McNoughtan
Lena Peters
Sassirika Lam
Fiona McElroy
Sam Goodison
Bina Beck
Caz Hildebrand
Claire Allaway

KIRSTY MACRAE
ADAM ROSS

BENJAMIN
MATHEWS

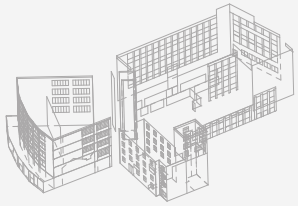
OMER ONER



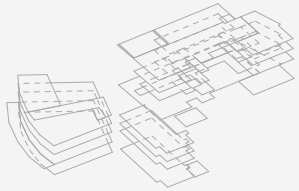
[1] Wood Green's ceramics network within Haringey Heartlands — collating a dispersed community of makers to envision shared facilities and a collective hub for celebrating the arts in the borough.

[2] Heartlands Ceramics Centre retrofit proposal.

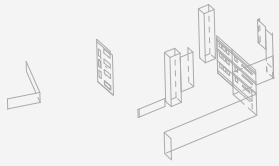
RETAIN



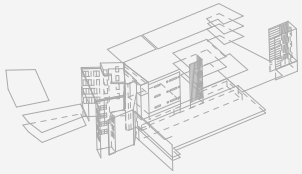
RECONFIGURE



REPAIR

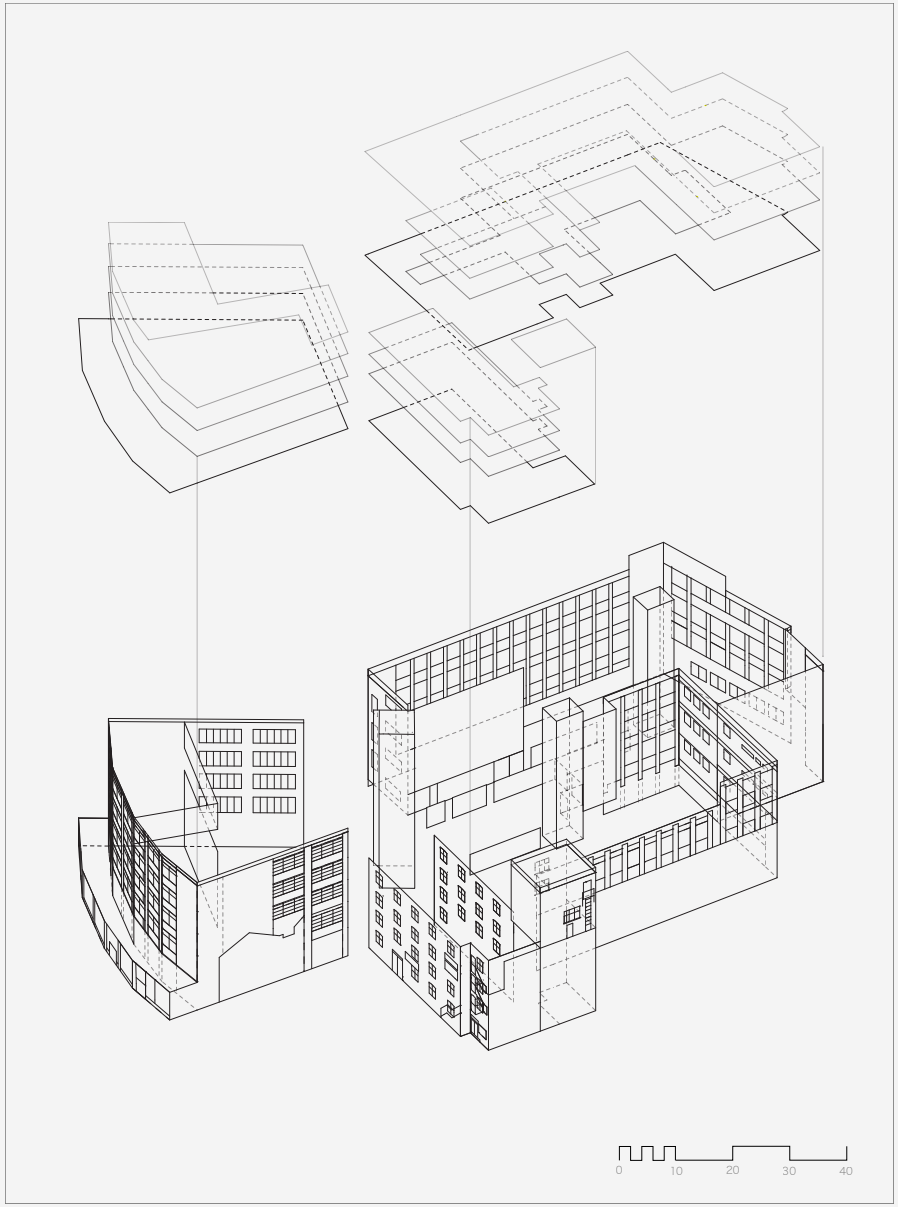


REMOVE



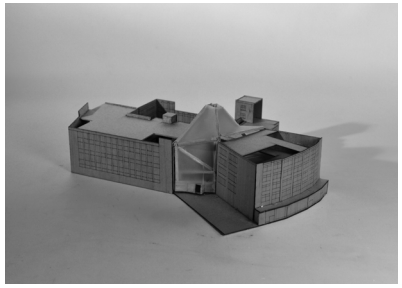
Adaptive Re-use

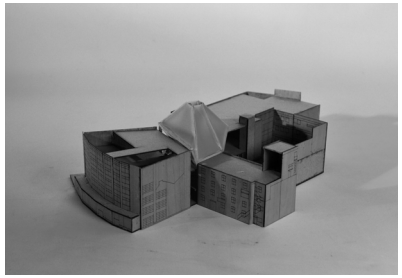
The transformation of a historic sweet factory into an expanded arts centre required a careful balance between preservation, adaptation, and renewal. As part of the masterplan, selective demolition of underused and restrictive facades within the industrial block was undertaken to open the site to its wider community and support its new programme. This process revealed the potential of the block's hidden core, creating three new public-facing entrances that lead directly into a central atrium – the heart of the project and connective device, binding the existing arts centre to a retrofit of the underutilised office wings, now reprogrammed as a ceramics centre with studios, workshops, and production facilities.



[1] Existing facades & adapted floor plates within the adaptive reuse masterplan

[2] Investigating archives to determine structural adaptation strategy.

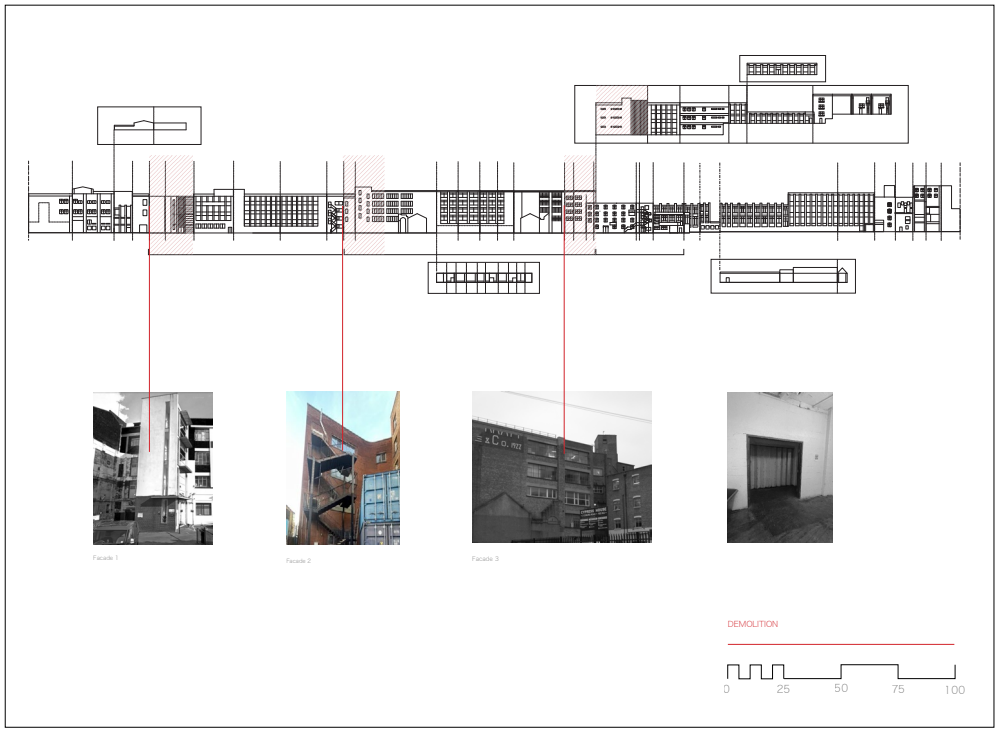


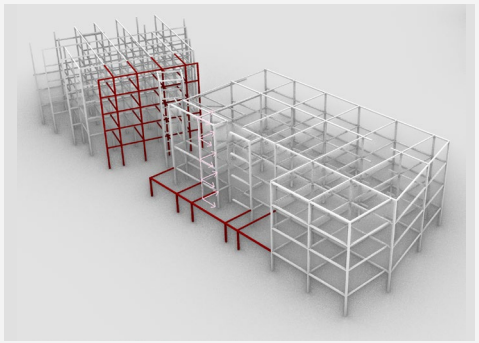


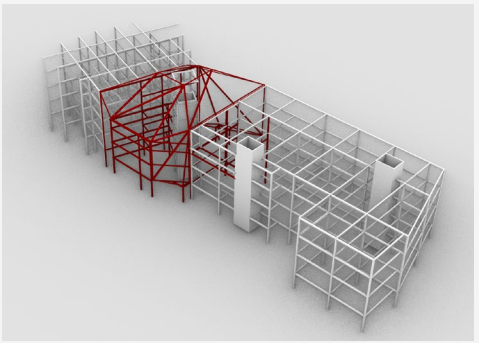
[3] Calibrating to context through a triangulated structure & retaining historial facade.

Structural Re-use & Facade Preservation

The residual steel framework uncovered through the reconfiguration is carefully dismantled, rewelded, and rearticulated to form the primary structural system of the new atrium. Decisions regarding steel removal are governed by the preservation and structural integrity of the historic masonry facades, ensuring that interventions respect and reinforce the architectural character of the industrial block while accommodating the expanded programme.







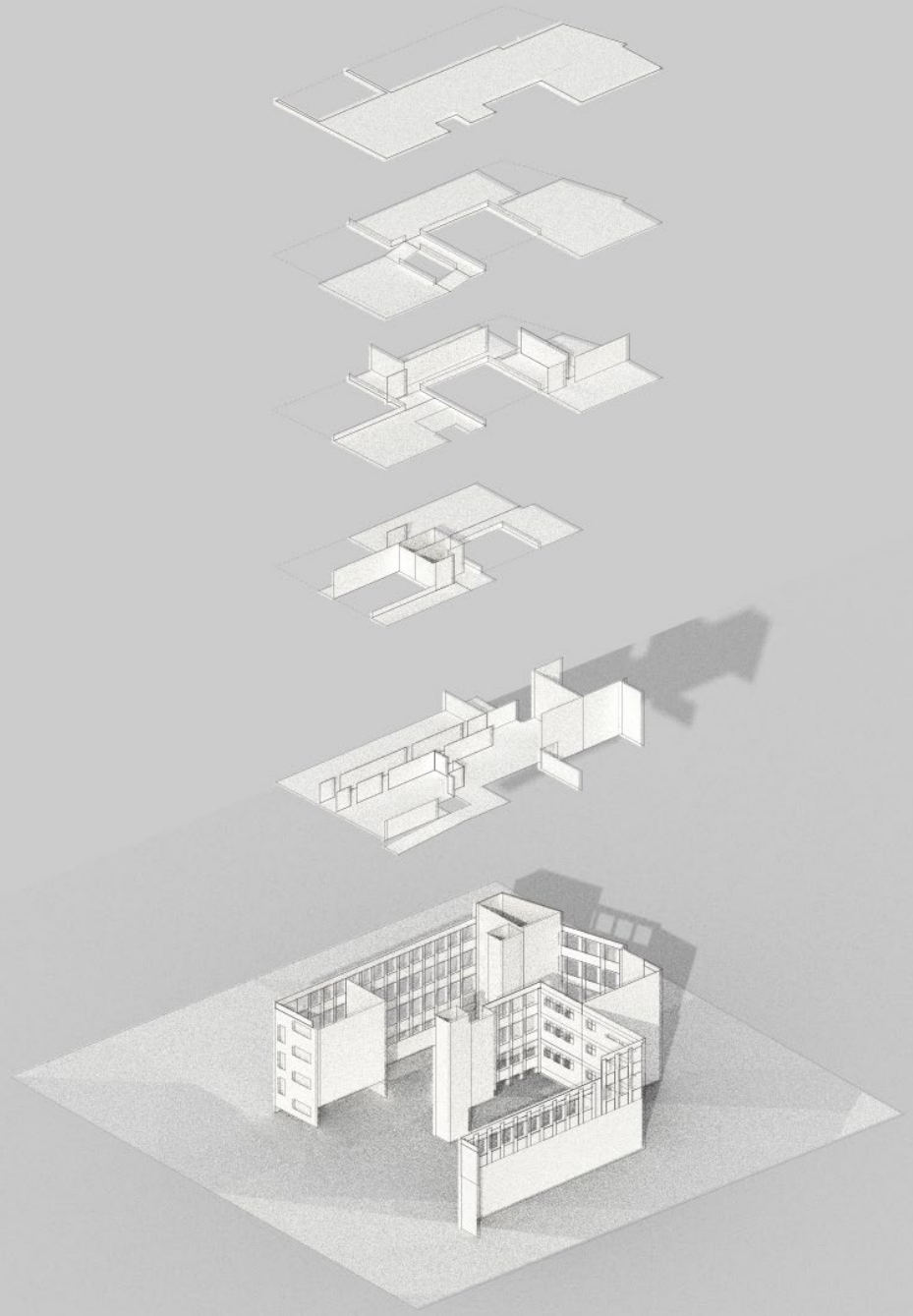
Strategic Demolition

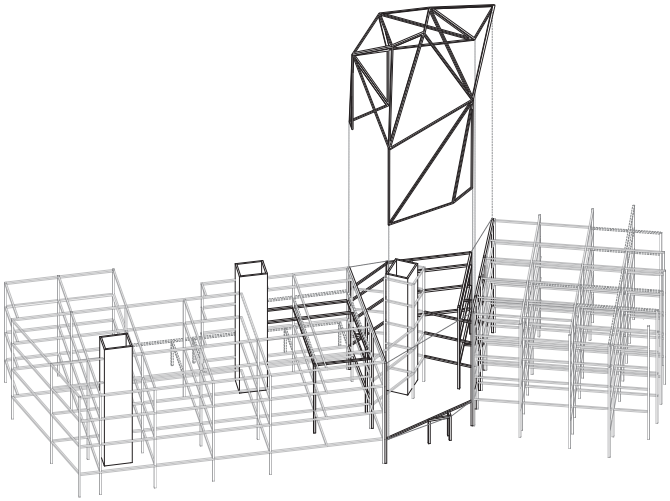
Demolition of targeted facades within the industrial block establishes three new thresholds that orient the project towards a wider urban context, creating clear points of entry into the central atrium. The demolition process simultaneously performs a material and spatial role. By dismantling the existing fabric, material stock (brick, steel, concrete) can be reintegrated into the new construction, establishing a continuity of material identity while reducing the demand for resources. The tectonic character of the atrium and gallery emerges from this negotiation between old and new: Retained masonry walls and reused steel members articulate the palimpsest of the industrial block, framing contemporary interventions.

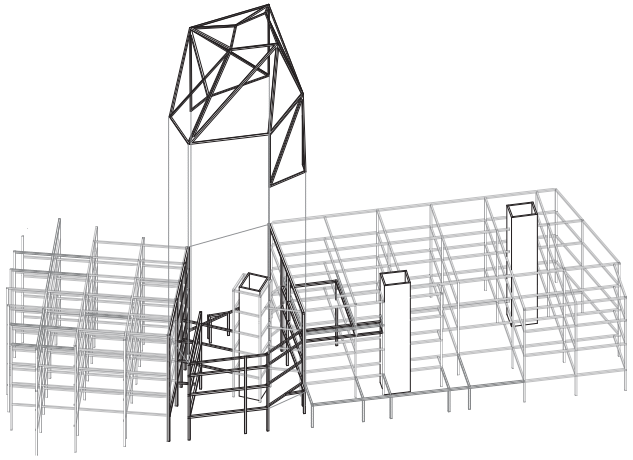
[1] Taxonomy of facades highlight demolition for programme thresholds documenting context through facade.

[2] Gallery Floor landing - walkways and building skin envelop newly exposed internal thresholds and moments of repair.

[3] Structuraral Adaptation, steels removed and reconfigured to form central atrium space.







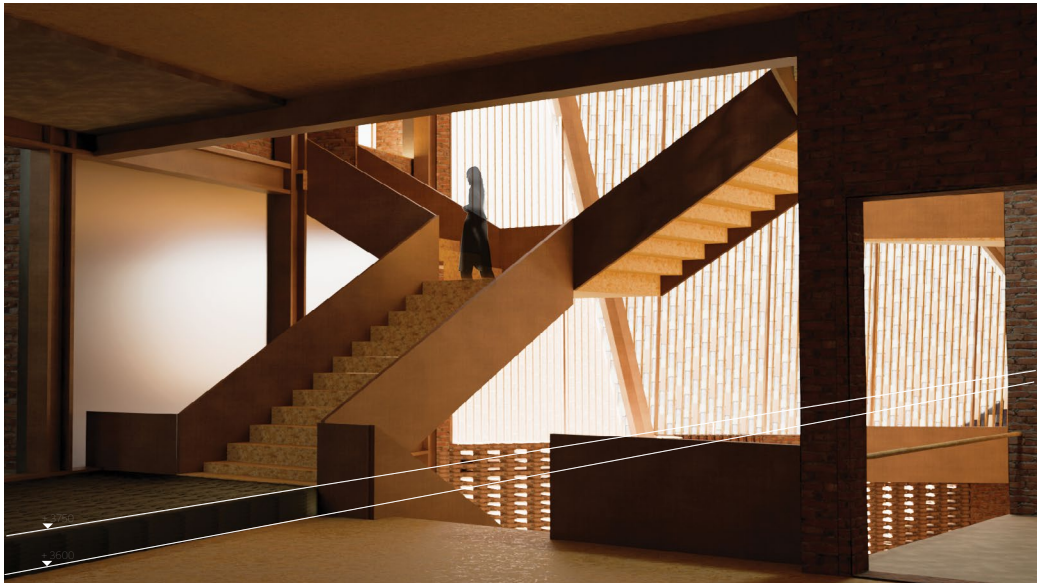
Reconfiguration

The Retrofit of the old office spaces (Parmar House) comprises of 5 new floor adaptations to house the ceramics centre. The narrative of industrial waste recycling to ceramic manufacture is narrated through walkways and mezzanines connecting the public floors, all accessible via the atrium space. Structural adjustments extend from the atrium space into the retrofit to facilitate level changes between the existing contexts.

[1] Adapted floorplates from existing concrete slabs. Mezzanines connect public views towards manufacturing spaces visualising the circular materiality narrative for the public.

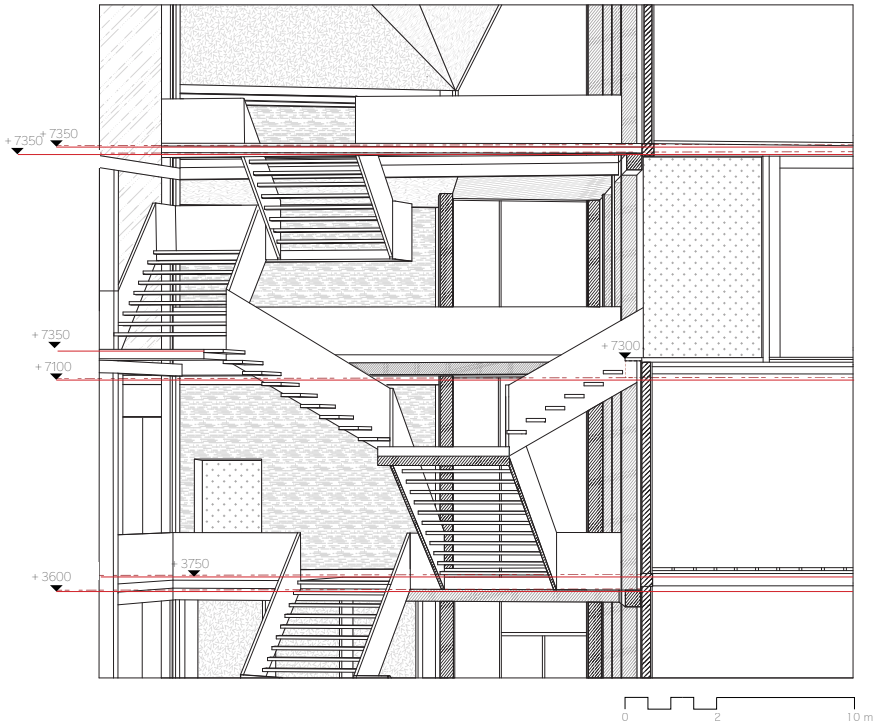
[2] Adapted structure facilitates level change extending into retrofit. Reclaimed steels support historical elements and enveloping central circulation in a repurposed steel framework shell.

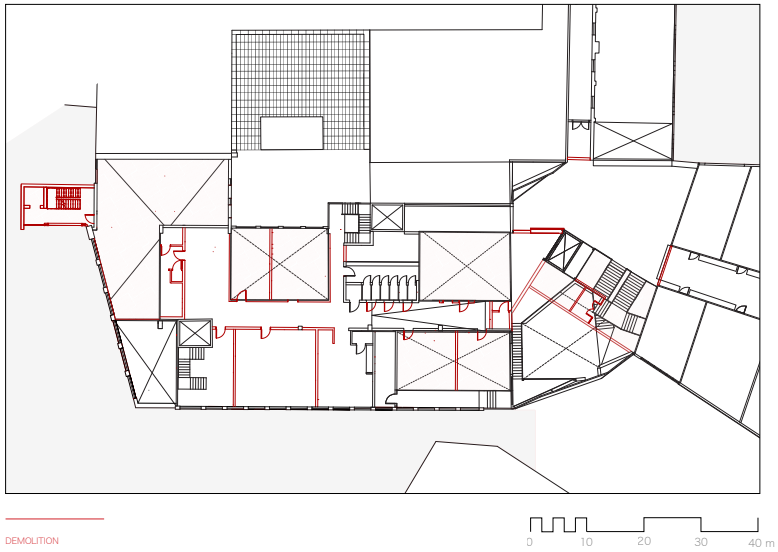
Calibration & Continuity

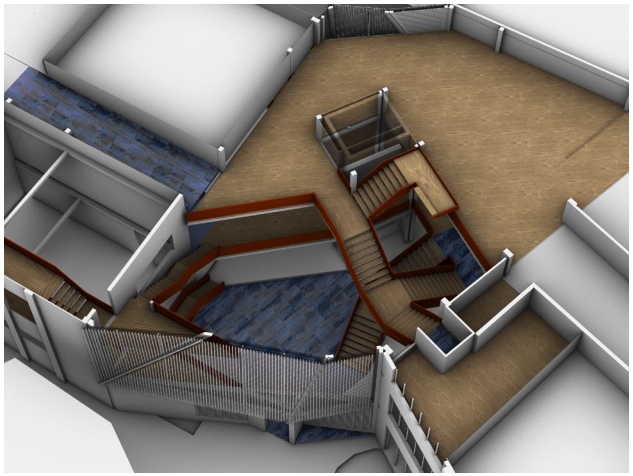


[1] Meeting point on the stairway - Subtle level adjustments re-calibrate levels marked by ceramic steps.

[2] Dappled lighting from facade materiality articulates walkways with the movement of the sun

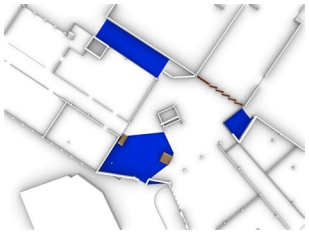


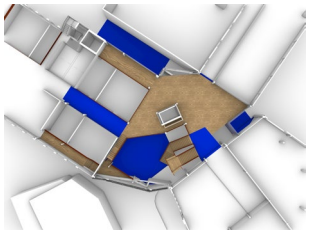


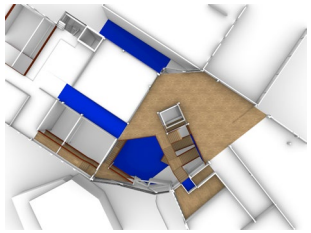


Circular Economy of Waste

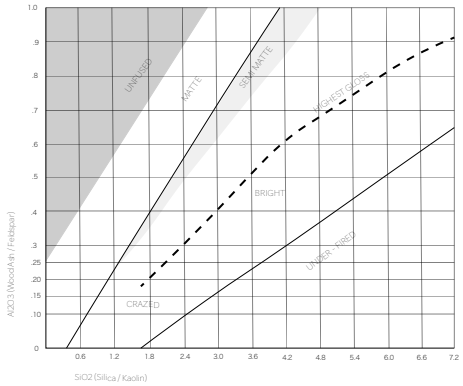
Ceramic glaze development was driven by the reuse of industrial waste sourced from the surrounding context. By iterating material ratios and conducting surface tests through Stull chart analysis, a range of distinct glaze properties was achieved. These outcomes were then mapped onto tiles and applied to surface and façade studies through digital modelling, exploring how waste-derived materiality and circular economy could inform both tectonic detail and surface quality.



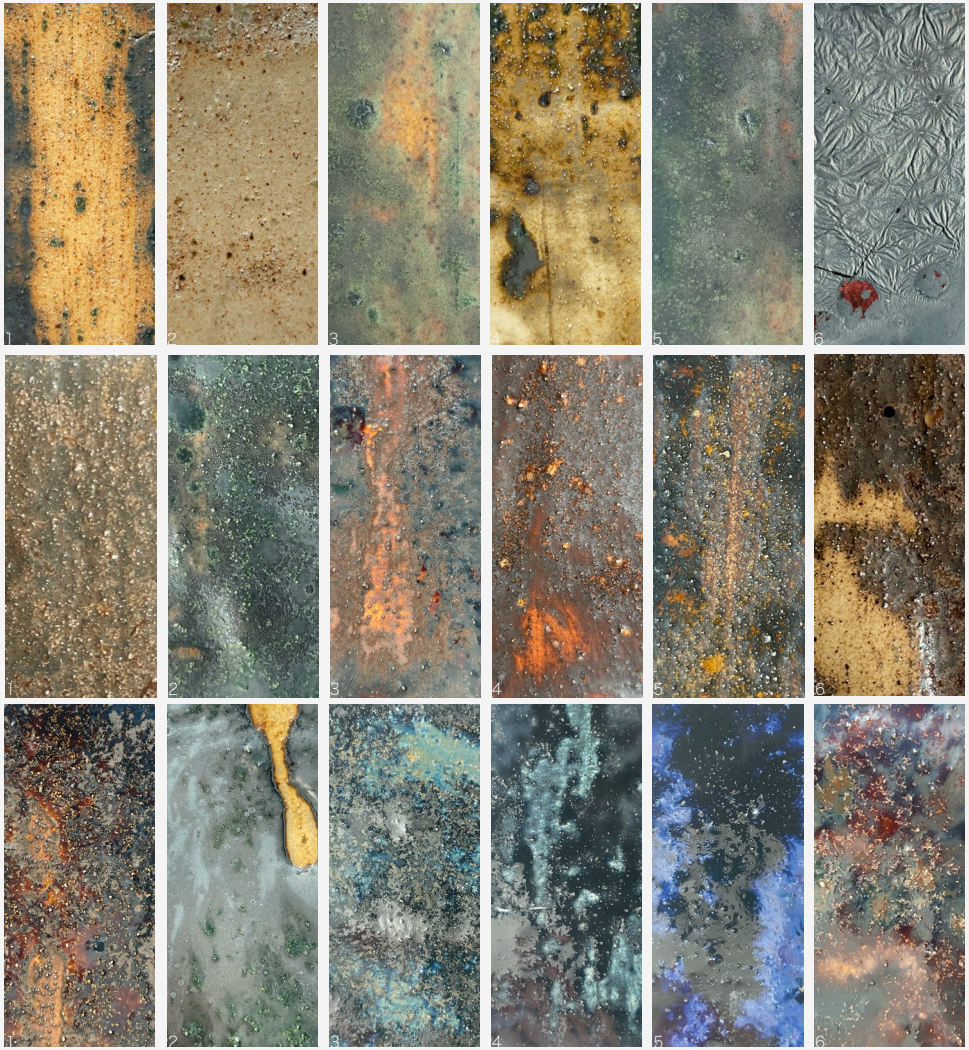




TIN OXIDE + MANGANESE DIOXIDE

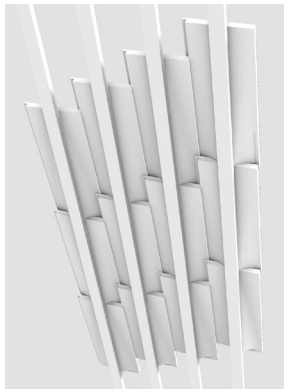


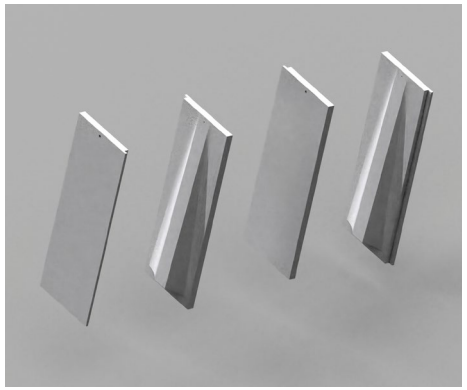
[1] Example stull chart analysis from technical investigation: ceramic glazes from reclaimed waste - experiments determining effects of waste material ratios on glaze outcome.

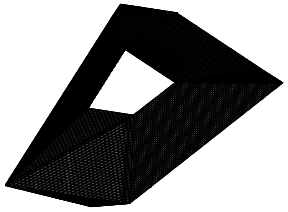


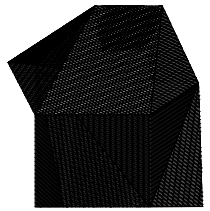
Community Build

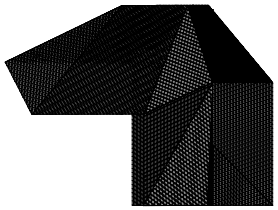
Volunteering with Global Generation at their King's Cross Triangle site provided hands-on experience in self-build construction, where volunteers fabricated shingles and clay brick elements while learning correct installation to minimise water ingress. This informed my own development of a tile system (opposite) that wraps the façade in a spiral, linking existing elevations to a central atrium. Adapting the Triangle site's method, the system uses vertical dowels with each tile overlapping at a 3-degree chamfer to create lift, ensure water tightness, and articulate texture. The interior surface retains the imprint of reclaimed timber from surrounding industries, embedding craft and material memory into the architecture.

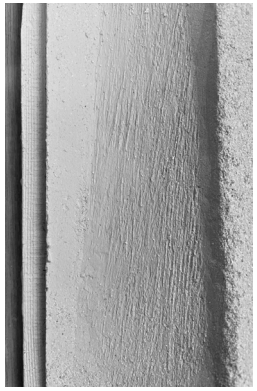










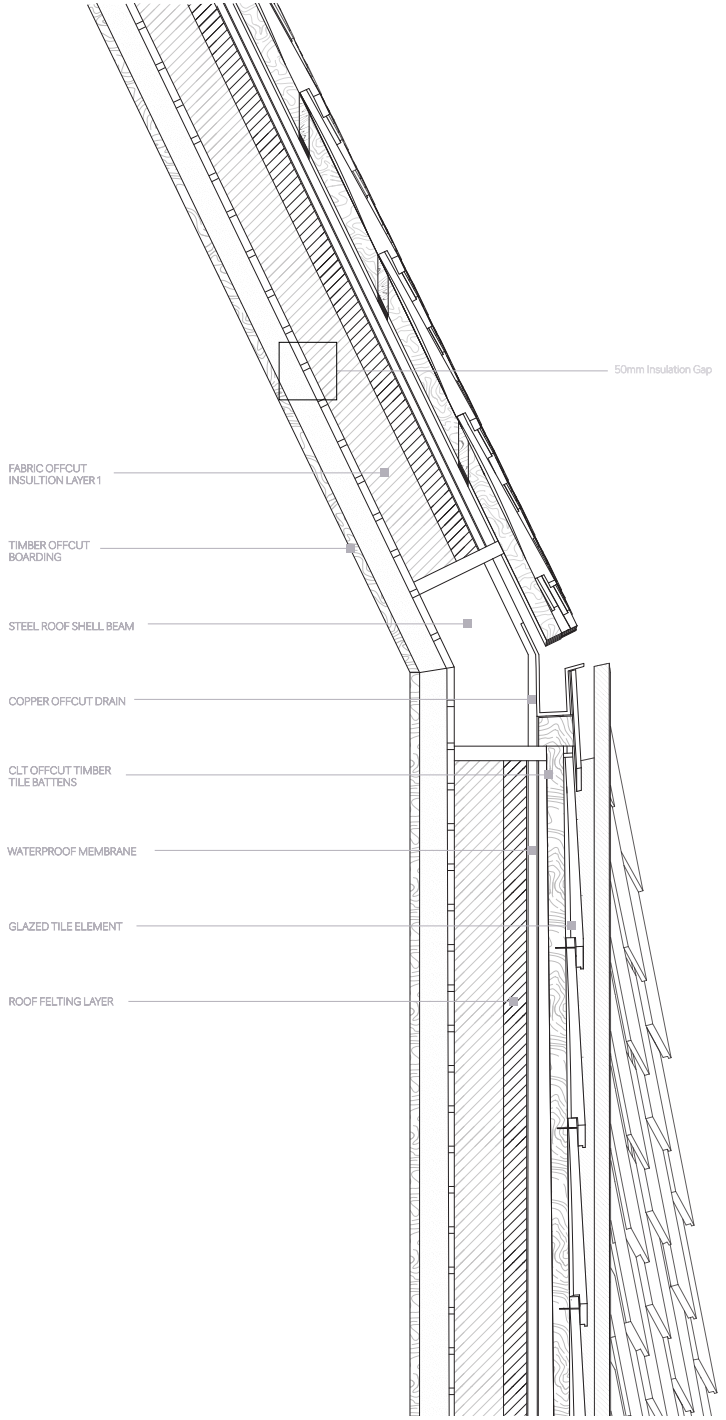


[1] Tile design & Structure
[2] Facade Layout
[3] Tile Texture & Formwork

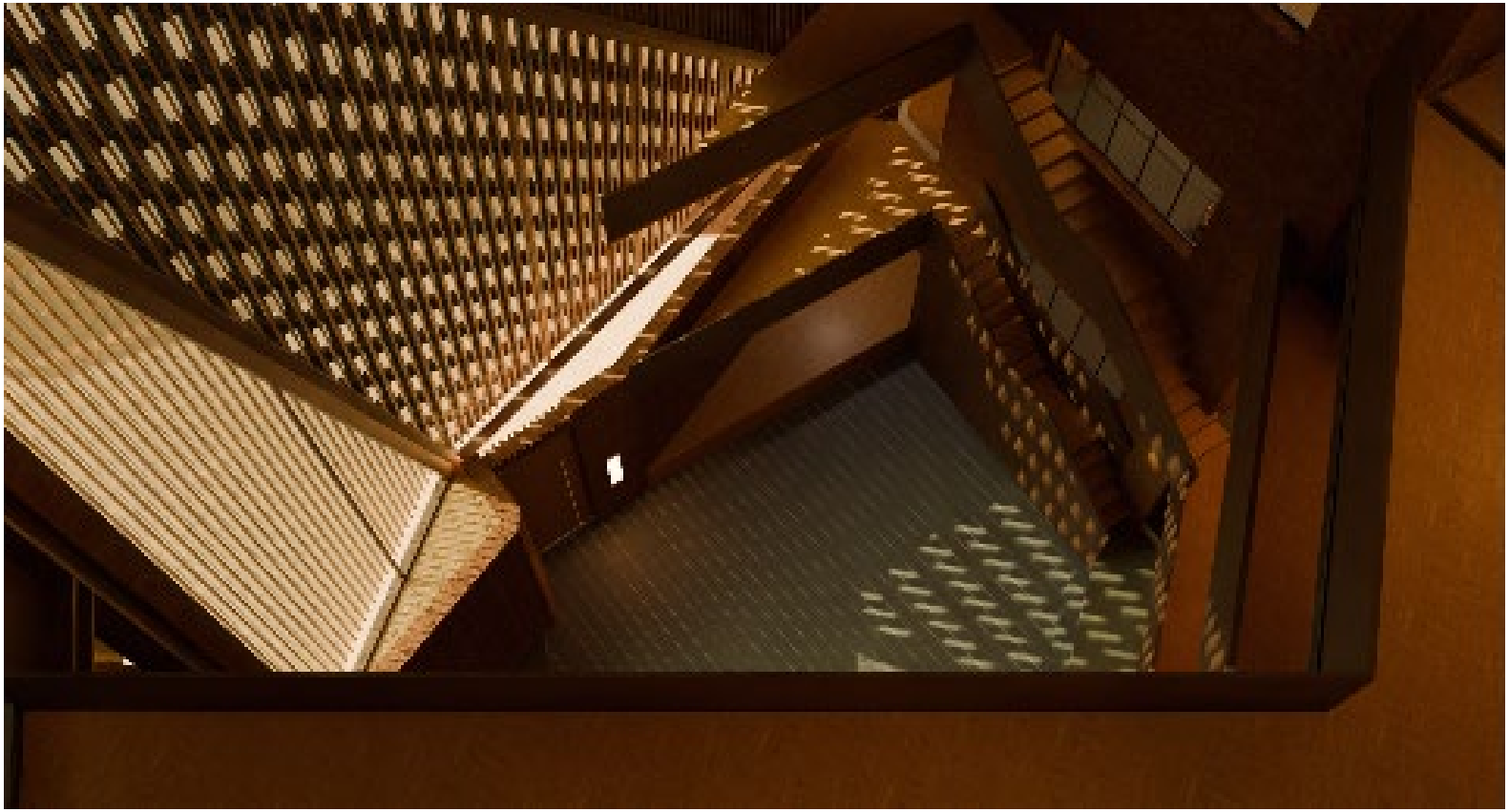
Facade Tectonics

The layered tiles create a ceramic glazed shell that reflects the materiality of industrial metal waste with ceramic elements reflecting the circular economy that the programme houses. Tiles wrap around the triangulated structure - this creates an overlap, a hidden gutter detail is nestled behind each face of triangulated tile.

[1] Tectonic Junction - Draniage Detail
[2] Atrium Perspectival Section
[3] Facade Tectonic Section



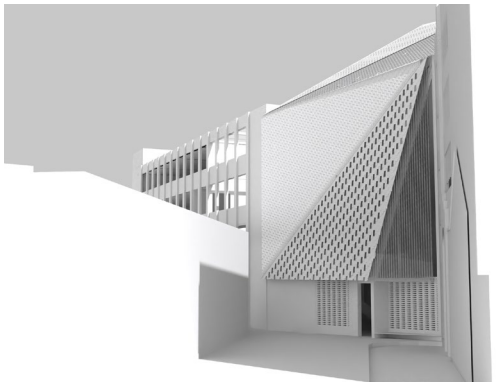
HEARTLANDS ARTS & CERAMICS CENTRE
Radical Repair + Resource Responsive Architecture
Index of Spaces
Ceramics
1. Waste Sorting
2. Material Store
3. Waste Filtration 1
4. Clay Processing
5. Waste Filtration 2
6. Casting Floor
7. WC
9. Drying Cupboard
9. Ceramic Glazing
10. Electric Kilns
11. Waste Brick Kiln
Circulation / Amalgamation
12. Retained Goods Lift
13. Factory Output Warehouse
14. Gallery Dining Hall / Bar
15. Fabric Offcut Sort + Share
16. Sheltered Factory Entrance
17. Street Entrance Hallway
18. Garden Entrance



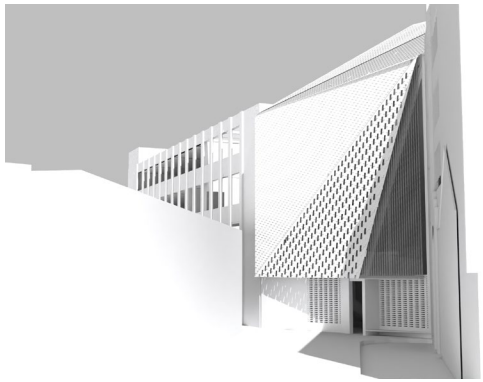
Amalgamation Space

In the central amalgamation gallery, layered walkways are composed to enhance visual permeability between levels, enabling interaction and spatial connection. These routes negotiate thresholds between historic fabric and former industrial use through a new material language rooted in re-use and circular economy principles. A perforated, translucent façade of reclaimed elements modulates daylight into shifting, dappled patterns that animate the atrium walkways. Through this interplay of light, material, and movement, the gallery operates as both an environmental and spatial catalyst.

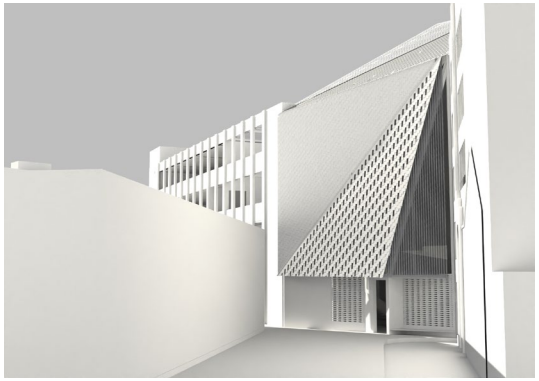
As sunlight passes over the facade, glass tiles cast a lantern effect into the atrium, angled to allow morning light into the building whilst still providing shade. Evening sunlight hits the south westerly facing facade and dappled light is transmitted into the building.



9:00 21/06/25



12:00 21/06/25



21:00 21/06/25

[1] Tectonic Junction - Dranage Detail
[2] Atrium Perspectival Section
[3] Facade Tectonic Section

Atrium Gallery

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